

CLAIMS

1. (Previously presented) A therapeutic agent for treating diseases associated with an increase in radiation resistance or drug resistance of a cell, said agent comprising an isolated sequence comprising 5'-TCCATGGTGCTCACT-3' (SEQ ID NO:3) wherein said agent reduces radiation resistance or drug resistance of said cell.
2. (Original) The therapeutic agent of claim 1 wherein said agent reduces drug resistance of said cell and further wherein said drug resistance is a resistance to a chemotherapeutic agent.
3. (Previously presented) A method for reducing radiation or drug resistance of a human cell which does not overexpress *HER-2*, said method comprising introducing into said cell an antisense nucleic acid comprising a segment complementary to *HER-2* in an amount effective to reduce said radiation or drug resistance.
4. (Original) The method of claim 3 wherein said cell is a carcinoma cell selected from the group consisting of breast, bladder, prostate, head, neck, lung, colon, pancreas, cervical, ovarian, melanoma and stomach carcinoma cells.
5. (Original) The method of claim 3 wherein said antisense nucleic acid is introduced by association with a targeted liposome.

- <sup>9</sup>  
~~6.~~ (Original) The method of claim 3 wherein said antisense nucleic acid comprises SEQ ID NO:3.
- <sup>10</sup>  
~~7.~~ (Original) A method for treating a person with a disease wherein said person is resistant to radiation or drug treatment of said disease, wherein resistance to said radiation or drug treatment is not a result of overexpression of *HER-2*, said method comprising administering to said person an antisense nucleic acid comprising a segment complementary to *HER-2* in an amount effective to decrease said resistance to radiation or drug treatment.
- <sup>10</sup>  
~~8.~~ (Original) The method of claim <sup>10</sup>~~7~~ wherein said resistance to radiation or drug treatment results from a mutation in or overexpression of a gene selected from the group consisting of *sis* (PDGF- $\beta$ ); *trk*; *met*; *src*; *mos*; *protein kinase C  $\beta$ -1*; *ets-1*; *raf-1*; *Ha-ras*; *c-Fos*; *c-Jun*; *c-myc*; *Shc*; *Grb2*; *Sos*; *PLC $\gamma$* ; and a gene encoding ERK1, ERK2, MEKK, MEK1, MEK2, MAPK, SAPK, MAP2, MAP4, TNF- $\alpha$  receptor, EGF receptor, PKC- $\alpha$ , PC-PLC, PKC- $\epsilon$ , an RTK, a TCR-CD3, an STMR, a PTKs, or a G protein.
- <sup>12</sup>  
~~8.~~ (Withdrawn) The method of claim <sup>11</sup>~~8~~ wherein said gene is *Ha-ras*.
- <sup>13</sup>  
~~10.~~ (Withdrawn) The method of claim <sup>11</sup>~~8~~ wherein said gene is *raf-1*.
- <sup>14</sup>  
~~11.~~ (Original) The method of claim <sup>10</sup>~~7~~ wherein said antisense nucleic acid comprises SEQ ID NO:3.

<sup>18</sup>  
~~12.~~ (Previously presented) A method for reducing radiation or drug resistance of a human cell which overexpresses HER-2, said method comprising introducing into said cell an antisense nucleic acid comprising a segment complementary to HER-2 in an amount effective to reduce said radiation or drug resistance.

<sup>19</sup>  
~~13.~~ (Previously presented) The method of claim <sup>18</sup>~~12~~ wherein said cell is a carcinoma cell selected from the group consisting of breast, bladder, prostate, head and neck, lung, colon, pancreas, cervical, ovarian, melanoma and stomach carcinoma cells.

<sup>20</sup>  
~~14.~~ (Original) The method of claim <sup>18</sup>~~12~~ wherein said antisense nucleic acid is introduced by association with a targeted liposome.

<sup>24</sup>  
~~15.~~ (Original) The method of claim <sup>18</sup>~~12~~ wherein said antisense nucleic acid comprises SEQ ID NO:3.

<sup>25</sup>  
~~16.~~ (Original) A method for treating a person with a disease wherein said person is resistant to radiation or drug treatment of said disease, wherein resistance to said radiation or drug treatment is a result of overexpression of HER-2, said method comprising administering to said person an antisense nucleic acid comprising a segment complementary to HER-2 in an amount effective to decrease said resistance to radiation or drug treatment.

<sup>26</sup>  
~~17.~~ (Original) The method of claim <sup>25</sup>~~16~~ wherein said resistance to radiation or drug treatment results from a mutation in or

overexpression of a gene selected from the group consisting of *sis* (PDGF- $\beta$ ); *trk*; *met*; *src*; *mos*; protein kinase C  $\beta$ -1; *ets-1*; *raf-1*; *Ha-ras*; *c-Fos*; *c-Jun*; *c-myc*; *Shc*; *Grb2*; *Sos*; *PLC $\gamma$* ; and a gene encoding ERK1, ERK2, MEKK, MEK1, MEK2, MAPK, SAPK, MAP2, MAP4, TNF- $\alpha$  receptor, EGF receptor, PKC- $\alpha$ , PC-PLC, PKC- $\epsilon$ , an RTK, a TCR-CD3, an STMR, a PTKs, or a G protein.

<sup>27</sup>  
~~18.~~ (Withdrawn) The method of claim <sup>26</sup>~~17~~ wherein said gene is *Ha-ras*.

<sup>28</sup>  
~~19.~~ (Withdrawn) The method of claim <sup>26</sup>~~17~~ wherein said gene is *raf-1*.

<sup>29</sup>  
~~20.~~ (Original) The method of claim <sup>25</sup>~~16~~ wherein said antisense nucleic acid comprises SEQ ID NO:3.

~~21.~~  
<sup>6</sup> (Previously presented) The method of claim 5, wherein said targeted liposome comprises a complex of a ligand and a liposome comprising a mixture of a cationic lipid and a neutral lipid.

<sup>7</sup>  
~~22.~~ (Previously presented) The method of claim <sup>6</sup>~~21~~, wherein said liposome comprises a mixture of dioleoyltrimethylammonium-propane (DOTAP) and dioleoylphosphatidylethanolamine (DOPE).

<sup>8</sup>  
~~23.~~ (Previously presented) The method of claim <sup>6</sup>~~21~~, wherein said ligand comprises folate or transferrin.

<sup>15</sup>  
~~24.~~ (Previously presented) The method of claim <sup>16</sup>~~7~~, wherein said antisense nucleic acid is administered via a targeted

liposome which comprises a complex of a ligand and a liposome comprising a mixture of a cationic lipid and a neutral lipid.

<sup>16</sup>  
~~25~~. (Previously presented) The method of claim <sup>15</sup>~~24~~, wherein said liposome comprises a mixture of dioleoyltrimethylammonium-propane (DOTAP) and dioleoylphosphatidylethanolamine (DOPE).

<sup>17</sup>  
~~26~~. (Previously presented) The method of claim <sup>18</sup>~~24~~, wherein said ligand comprises folate or transferrin.

<sup>21</sup>  
~~27~~. (Previously presented) The method of claim <sup>20</sup>~~14~~, wherein said targeted liposome comprises a complex of a ligand and a liposome comprising a mixture of a cationic lipid and a neutral lipid.

<sup>22</sup>  
~~28~~. (Previously presented) The method of claim <sup>21</sup>~~27~~, wherein said liposome comprises a mixture of dioleoyltrimethylammonium-propane (DOTAP) and dioleoylphosphatidylethanolamine (DOPE).

<sup>23</sup>  
~~29~~. (Previously presented) The method of claim <sup>21</sup>~~27~~, wherein said ligand comprises folate or transferrin.

<sup>30</sup>  
~~30~~. (Previously presented) The method of claim <sup>25</sup>~~16~~, wherein said antisense nucleic acid is administered via a targeted liposome which comprises a complex of a ligand and a liposome comprising a mixture of a cationic lipid and a neutral lipid.

- <sup>31</sup>  
~~31.~~ (Previously presented) The method of claim <sup>30</sup>~~30~~, wherein said liposome comprises a mixture of dioleoyltrimethylammonium-propane (DOTAP) and dioleoylphosphatidylethanolamine (DOPE).
32. (Previously presented) The method of claim 30, wherein said ligand comprises folate or transferrin.